

# **Exhibit 2**

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Markus Jakobsson



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## Markus Jakobsson

Chief of Security and Data Analytics at Amber Solutions Inc.

San Francisco Bay Area · 500+ connections

 Amber Solutions Inc. University of California San Diego Websites[Join to Connect](#)

## About

Chief scientist at Agari with 20 years of experience as a security researcher and scientist studying phishing, crimeware and mobile security at organizations including PayPal, Palo Alto Research Center (PARC) and RSA Security. Co-founder of three digital security startups spanning email fraud prevention, user authentication, mobile malware detection and secure user messaging.

100+ publications: <http://www.markus-jakobsson.com/publications>

50+ issued patents: <https://www.google.com/?tbo=pts#q=bjorn+markus+jakobsson&tbo=pts>

Specialties: phishing and countermeasures, mobile malware, fraud, user authentication, device id, combined social and technical threats, protocol design, privacy, click-fraud, user interfaces, deceit, mobile security, voting.

My Erdős number is 3.

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By Markus Jakobsson

November 1, 2019



## Email Related Crime is Exploding

By Markus Jakobsson

August 12, 2016



## Business Email Compromise Losses Rapidly Escalate - What Must be Done Now

By Markus Jakobsson

May 26, 2016

## Activity



We were one of the first to report an analysis of the Dustman malware. Here is the first ever deep learning AI based analysis of the Dustman malware....

Liked by Markus Jakobsson



Amber celebrates another very significant milestone. I am so proud of this success and so many other achievements this year. Job well done, TEAM...

Liked by Markus Jakobsson



The launchpad attack is a rising new threat, faced by organizations and individuals alike. This is an attack suffered not by those suffering poor...

Shared by Markus Jakobsson

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## Experience

 **Chief of Security and Data Analytics**  
Amber Solutions Inc.

Jul 2018 – Present · 1 year 7 months

Dublin, CA

### Testifying Expert Witness

Variety of Law Firms

Jan 2005 – Present · 15 years 1 month

I have worked as testifying expert witness in computer and network security for a collection of patent litigation trials, criminal cases, and class action suits - both in the US and in Canada. Believe me or not: I love depositions!

I have worked for McDermott, Will & Emery; Bereskin & Parr; WilmerHale; Hunton & Williams; Quinn Emanuel Urquhart & Sullivan; Freed & Weiss; Berry & Domer; Fish & Richardson; DLA Piper; Cipher Law Group; Keker & Van Nest.

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 ZapFraud

### Founder and CTO

ZapFraud

Jan 2012 – Present · 8 years 1 month

Portola Valley, CA

ZapFraud addresses the rising scam problem using disruptive technology.



### Technical Advisory Board member

Cequence Security

Jul 2013 – Present · 6 years 7 months

### Founder

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Markus Jakobsson

**Chief Scientist**

Agari

Jul 2016 – Jul 2018 · 2 years 1 month

San Francisco Bay Area

Agari, a leading cybersecurity company, is trusted by leading Fortune 1000 companies to protect their enterprise, partners and customers from advanced email phishing attacks. The Agari Email Trust Platform™ is the industry's only solution that 'understands' the true sender of emails, leveraging the company's proprietary, global email telemetry network and patent-pending, predictive Agari Trust Analytics to identify and stop phishing attacks.

**Senior Director**

Qualcomm

Dec 2013 – Nov 2015 · 2 years

Santa Clara

Develop malware detection solutions (via acquisition of FatSkunk)

**Co-founder, CTO**

FatSkunk (acquired by Qualcomm)

Aug 2009 – Dec 2013 · 4 years 5 months

Silicon Valley

Develop malware detection solutions.

**Principal Scientist, Consumer Security**

PayPal

May 2011 – Sep 2013 · 2 years 5 months

San Jose

**Member of Fraud Advisory Board**

LifeLock

Mar 2009 – Aug 2013 · 4 years 6 months

**Principal Scientist**

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Markus Jakobsson

IUB

Aug 2004 – Jan 2008 · 3 years 6 months

I was associate professor of Informatics; of Computer Science; and Cognitive Science, and was an associate director of the Center for Applied Cybersecurity Research. After I left, I retained an adjunct position, and continued to advise students.

**Principal Research Scientist**

RSA Labs

May 2000 – Aug 2004 · 4 years 4 months

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## Education

**University of California San Diego**

PhD · computer science

1993 – 1997

**The Faculty of Engineering at Lund University**

MSc (civilingenjör) · computer engineering (data teknik)

1987 – 1992

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## Publications

**Fighting Today's Targeted Email Scams**

IEEE Spectrum · April 21, 2016

Email phishing is far more sophisticated than it used to be—and even you could fall for it.

Other authors

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Is the Internet at risk? Can fraud and abuse make it so undesirable that people will turn elsewhere? What could push us over the tipping point -- and how can we avoid it?

[See publication](#)

## Mobile Authentication: Problems and Solutions

Springer · Jul 2012

Mobile authentication is not simply authentication on a mobile device. Differences in user interfaces, user attitudes and more create different dynamics. This book describes the differences and how to address these -- not always by tweaking old solutions, but by redesign, where needed.

[See publication](#)

## The Case for Replacing Passwords with Biometrics

IEEE Symposium on Security and Privacy · May 1, 2012

This paper argues that biometric methods, such as finger- printing methods, could address a large part of this towering threat - but only if properly architected. We describe an architecture that is practically attainable and which would address the problem in a meaningful way, and argue that this is a promising direction – both in terms of security and usability.

Keywords-authentication; biometrics; fraud; malware.

Other authors

[See publication](#)

## McAfee Security Journal

October 14, 2008

The McAfee Security Journal was created as a venue to inform security executives and IT personnel on cutting-edge topics, and to examine the future of information security.

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### Phishing IQ Tests Measure Fear, Not Ability

FC'07/USEC'07 Proceedings of the 11th International Conference on Financial cryptography and 1st International conference on Usable Security · February 12, 2007

Other authors

[See publication](#)

### Phishing and Countermeasures: Understanding the Increasing Problem of Electronic Identity Theft

Wiley · Dec 2006

The first textbook describing the problem of phishing -- and some of the possible countermeasures.

Other authors

[See publication](#)

### Crimeware: Understanding New Attacks and Defenses

Addison-Wesley / Pearson

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Crimeware: Understanding New Attacks and Defenses will help security professionals, technical managers,...

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Other authors

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## Liar Buyer Fraud, and How to Curb It

USEC'15

Other authors

[See publication](#)

## Understanding Social Engineering Based Scams

Springer

This book describes trends in email scams and offers tools and techniques to identify such trends. It also describes automated countermeasures based on an understanding of the type of persuasive methods used by scammers. It reviews both consumer-facing scams and enterprise scams, describing in-depth case studies relating to Craigslist scams and Business



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Other authors

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## Patents

<http://patents.justia.com/inventor/bjorn-markus-jakobsson>

United States · 100+ patents

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## Groups

[Security Intelligence Network](#)

[Malware Analysis](#)

[ICTTF - International Cyber Threat Task Force](#)

[Network Security, Management and Monitoring](#)

[Information Security Community](#)



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## Recommendations

A preview of what LinkedIn members have to say about Markus:

- “ Markus worked for our law firm as a testifying expert witness on three IPRs for several patents relating to Internet security. We just received the Final Written Decisions from the PTAB, which were complete victories for our client, with the board repeatedly and heavily relying on Markus' excellent testimony. Markus exhibits a rare combination of technical expertise in his domain, ability to think quickly under pressure, understanding of patent law, strong communication skills, and ethical behavior. In deposition, he shines, understanding both the underlying matter and the strategy of opposing counsel.
- “ Working with Markus has been a highlight of my career. You can tell that he is a professor and a scientist because he is both a thoughtful expert and a prolific creator. Markus is able to translate complex concepts into digestible phrases, such as "a cyber wolf in sheepskin." I also found him to exhibit a lot of foresight into emerging market trends, without falling into the typical marketing hype. I appreciate how frequently and easily he made himself available for collaboration, as well as how freely he shared his feedback with me. I have learned and grown as a security and marketing professional having worked with Markus.

25 people have recommended Markus

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## People also viewed



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Senior Manager, Software Development at Amazon - I am Hiring!



**Sal Francomacaro**

Info Security and Identity Mngt specialits at NIST



**Ozlem Calik**

Ankara University Lecturer Dr.



**Pushkar Ratnalikar**

Compiler Engineer at Intel Corporation



**Matt Guza**

Sr. Cybersecurity Engineer at U.S. Office of Personnel Management (OPM)



**Morteza Okhovat**

Research Assistance at IUST



**Dave Tarpley**

Vice President, International and Partnerships Sales at Metrics Technologies, Inc.

**Anil Chougule**

Ph.D. Scientific Researcher at Institute of Biology Valrose (iBV), University of Côte d'Azur, Nice France

## Others named **Markus Jakobsson**



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Zürich Area, Switzerland



**Markus Jakobsson**

Team Manager på Vattenfall Customer Service AB  
Umea, Sweden



**Markus Jakobsson**

Purchaser Parts på UniCarriers  
Gothenburg, Sweden

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Learn the skills Markus has



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**Michael Coates**

Co-founder & CEO at Altitude Networks | Former CISO @Twitter



**Dr. Ulrich Lang, CEO**

stop talking start protecting ;) (6300+ LinkedIn Connections - thank you)



**Archie Agarwal**

Founder & CEO, ThreatModeler Software, the Industry's #1 Automated Threat Modeling Platform | Forbes Technology Council



**Andre McGregor**

Chief Security Officer | Veteran FBI Cyber Agent | Board Member | Tech Enthusiast



**Daniel Cid**

VP, Engineering at GoDaddy - Founder/CTO at Sucuri - Founder at OSSEC



**Zuk Avraham**

Founder, CEO at ZecOps | Founder, Chairman @ZIMPERIUM



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